

## maths — ANSWER KEY (Not for Students)

JHS 3 | Mathematics | First Term — 2025-2026 | Duration: 60 minutes | Total Marks: 42

### Instructions:

### ANSWER KEY

1. Use a ruler and compasses to construct an angle of  $60^\circ$  at a point on a line segment. Describe your steps.
2. Construct an angle of  $75^\circ$  by first constructing  $90^\circ$  and then  $60^\circ$  and bisecting the difference. Explain your steps.
3. Draw a line segment  $AB = 8$  cm. Construct its perpendicular bisector. Label the midpoint M. What is AM?
4. What is  $2^3 + 2^2$ ? → **C. 12**
5. Shade  $\frac{3}{4}$  of a rectangle. What fraction of the rectangle is unshaded? → **A.  $\frac{1}{4}$**
6. What is 15% of 200? → **C. 30**
7. Simplify  $5x + 3x$ . → **A.  $8x$**
8. Factorize  $3x + 4xy$ . → **A.  $x(3 + 4y)$**
9. What is  $\frac{15}{10}$  in its simplest form? → **B.  $\frac{3}{2}$**
10. How many sides does a decagon have? → **C. 10**
11. What is the probability of rolling a 6 on a fair die? → **A.  $\frac{1}{6}$**
12. What type of fraction is  $\frac{7}{4}$ ? → **B. Improper**
13. If  $a = 5$  and  $b = 3$  → **40.**
14. The area of a rectangle is  $24\text{cm}^2$ . If length is 8cm → **6cm.**
15. Which data collection method involves asking people questions? → **C. Interview**
16. What is the formula for the sum of interior angles of an n-sided polygon? → **B.  $(n-2) \times 180$**
17. What is the LCM of 4 and 6? → **A. 12**
18. Solve the equation  $2x - 3 = 15$ . → **D. 9**
19. The sum of the lengths of two sides of a triangle is always... → **A. Greater than the third side**
20. Make x the subject of the formula  $y = mx + c$ . → **A.  $x = (y - c)/m$**

21. What is the supplement of a  $110^\circ$  angle? → **A.  $70^\circ$**
22. Calculate  $\frac{3}{4} + \frac{7}{8}$ . → **B.  $\frac{13}{8}$**
23. What is the back bearing of  $060^\circ$ ? → **C.  $240^\circ$**
24. The graph showing proportional relationships is a... → **B. Straight line through the origin**
25. What is the value of  $\pi$  approximated to three decimal places? → **B. 1.414**
26. Find the simple interest on GH¢4500 at 3% per annum for 3 years. → **A. GH¢405**
27. Simplify  $\pi$ . → **A.  $3\pi$**
28. What is the decimal equivalent of  $\frac{1}{8}$ ? → **B. 0.125**
29. The sum of the interior angles of a hexagon (6 sides) is... → **B.  $720^\circ$**
30. Find the equation of a line with slope 2 and y-intercept -3. → **C.  $y = 2x - 3$**
31. Graph the solution of  $x \geq 4$  on a number line. (Conceptual) → **C. Closed circle at 4 shading right**
32. What is the coefficient of y in  $5xy$ ? → **B.  $5x$**
33. The area of a circle is  $154\text{cm}^2$ . Find the radius using  $\pi = \frac{22}{7}$ . → **C. 7cm**
34. Calculate  $\frac{4}{5} - \frac{1}{6}$ . → **A.  $\frac{19}{30}$**
35. What is the volume of a cylinder with radius 7cm and height 21cm using  $\pi = \frac{22}{7}$ ? → **A.  $3234\text{ cm}^3$**
36. Solve the inequality  $2x + 7 > \frac{5}{2}$ . → **A.  $x > -2.25$**
37. A student scores 70 and 76. What score in the third test gives an average of 80 or higher? → **C. 94**
38. Simplify  $34 \div 32 + 40 - 23 \times 32 \div 9$  using BODMAS. → **C. 38**
39. Solve the inequality  $(\frac{1}{2})(5x - 4) < x + \frac{11}{2}$ . → **A.  $x < 5$**
40. A man paid GH¢290 for 11 books. Geography books cost GH¢30 and history books cost GH¢20. How many geography books did he buy? → **C. 7**
41. A trader sells oranges from two baskets. Basket A had 85 oranges and she sold 48. She sold 59 oranges from basket B and was left with the same number as in Basket A. How many were originally in Basket B? → **A. 96**
42. The price of a jacket is three times that of a shirt. A jacket costs GH¢560.65. Mr Mensa bought two jackets and four shirts. What is the total cost correct to two decimal places? → **C. GH¢1868.83**